by CHARLES S. FRIEDMAN

Stocks of Passenger Cars: Postwar Growth and Distribution

At the end of 1962 there were 66 million passenger cars registered in the United States, according to figures from the U.S. Bureau of Public Roads. These automobiles now make up an important share of the Nation's real wealth and have contributed significantly to changes in the Nation's wealth since the end of World War II.

The purpose of this article, which was prepared as part of an interdepartmental study of economic growth in the United States, is to analyze the stock of passenger cars in the United States with respect to rates of growth, composition by age and price lines, and ownership by various types of households. To a large extent the cross-sectional analysis of automobile ownership by kind of household is based on Office of Business Economics' tabulations of a sample of over 50,000 households from the 1960 Census of Population and Housing. A later report in the growth project will present comprehensive estimates of the value of stocks of automobiles and other consumer goods in current and constant dollars.

Growth in Automobile Stock

The stock of passenger cars in the United States has experienced an uninterrupted growth since the end of World War II. Because of the depression and the wartime cessation of auto production, the number of cars in operation had shown only a small net gain in the previous 15 years. The 66 million passenger car registrations at the end of 1962 may be compared with 26 million at the end of 1945, and 23 million at the end of 1929. (See table 1.) Over the 17 postwar years the stock has increased by more than one and one-half times.

Since about 1950 there has been a significant slackening in the rate of increase of automobile stocks. Between 1945 and 1950—when the war-induced pent-up demand was met—the yearly growth rate in total auto registrations was over 9 percent. In the next 5 years—a period starting with production controls during the Korean emergency and ending in the banner sales year of 1955—the average annual gain declined to less than 6½ percent. The average gain in registrations since 1955 has been somewhat under 3½ percent per annum.

As can be seen in the first chart, the slowing in growth is particularly apparent when examined in per capita terms. There were 351 passenger cars registered for each 1,000 persons in the United States at the end of 1962, as compared to 263 cars at the end of 1950, an average annual increase of 7 cars per 1,000 persons. From 1945 to 1950 there was an average gain of 16 cars per 1,000 persons.

Scrappage, new car registrations, and the cycle

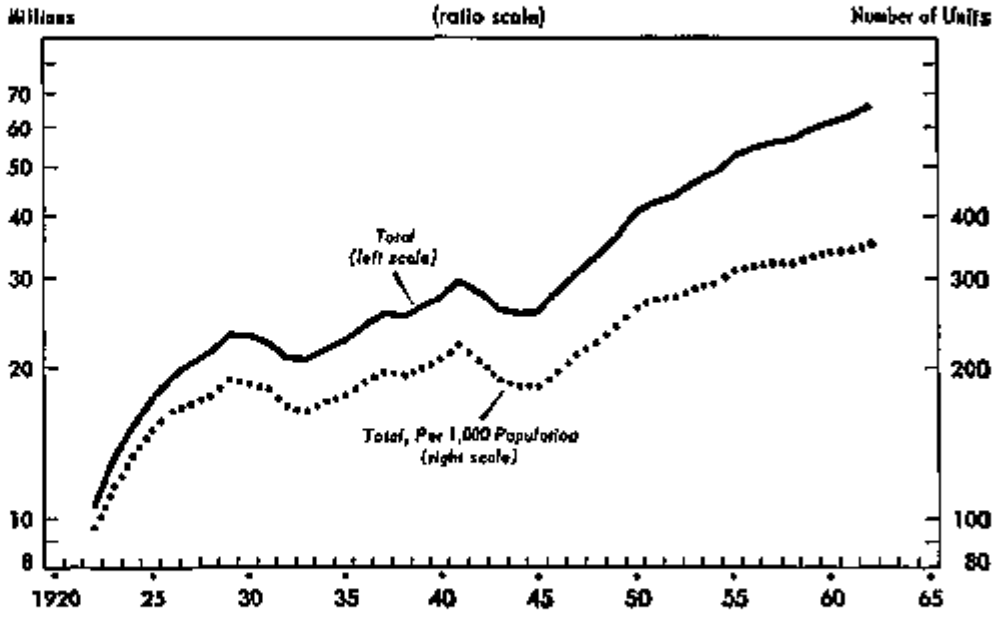
Changes in the stock of automobiles measured in units are the net result of new car purchases less discards or scrappage of existing cars. Information on new passenger car registrations and on discards are available from R. L. Polk & Co.[1] This firm publishes a stock series as of June 30 of each year which is based on tabulations of copies of individual automobile registration records. These figures are compiled differently from those of the Bureau of Public Roads, and are typically about 6 percent lower in level. However, both series yield similar growth rates and overall trend.

The annual time series on the number of cars scrapped from the end of the war to mid-1962 may be divided roughly into three periods: (1) the early postwar period when scrappage was quite low because cars were in short supply; (2) the 1950–55 period, when scrappage of superannuated prewar cars in large numbers occurred, with scrappage rising from about 2 million in 1950 to approximately 4

[1] Republication of R. L. Polk & Co. data contained in this article requires authorization from the company.

PASSENGER CAR REGISTRATIONS

Auto Stocks Have Increased Throughout Postwar Period, but Growth Has Slowed Since 1950, Both in Total and Relative to Population



Data: Bur. of Public Roads

U.S. Department of Commerce, Office of Business Economics

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million in 1955; (3) the period to at least mid-1962, when scrappage has held at about the 1955 level, except for the 1958 recession.

The cyclical behavior of scrappage has not been uniform over the postwar period. Under ordinary circumstances increased unemployment and lowered income and income prospects might be expected to cause consumers to postpone scrappage and the purchase of a new or later-model used car. With backlogs still unfilled at the time of the 1949 recession, however, car scrappage and new car sales as well increased over 1948. The mild 1954 recession saw scrappage and new registrations drop approximately 5 percent from the year before. During the more severe recession of 1958, total scrappage declined by some 30 percent from 1957, with new registrations off by one-fourth. The moderate recession of 1960–61 had no noticeable effect as over 4 million passenger cars were scrapped in both 1960 and 1961.

The main facts about the behavior of new passenger car sales are well known. Purchases have fluctuated widely in the postwar period; in the past 10 years, for example, sales of domestic and imported cars have ranged from under 5 million in 1958 to over 7 million in both 1955 and the first half of 1963 (annual rate). The chart makes clear the three periods of major expansion: 1945 through 1950, 1952 through 1955, and 1958 through the current period. In addition to the periods of significant decline—1951–52 and 1956–58—there have been smaller interruptions in the advances in 1954 and 1961.

Table 1.—Passenger Car Registrations in the United States

	All registrations (millions)	Registrations per 1,000 population
December 31		
1922	10.7	90
1923	13.3	117
1924	15.4	134
1925	17.5	150
1926	19.3	163
1927	20.2	169
1928	21.4	178
1929	23.1	189
1930	23.0	186
1931	22.4	180
1932	20.8	167
1933	20.7	164
1934	21.5	170
1935	22.6	177
1936	24.2	188
1937	25.5	197
1938	25.3	193
1939	26.2	199
1940	27.5	206
1941	29.6	220
1942	28.0	206
1943	20.0	188
1944	25.6	188
1945	25.8	183
1946	28.2	197
1947	30.5	211
1948	33.4	224
1949	36.5	241
1950	40.3	259
1951	42.7	273
1952	43.8	276
1953	46.4	287
1954	45.6	294
1955	52.1	311
1956	56.2	318
1957	55.9	322
1958	56.8	322
1959	59.6	332
1960	61.0	338
1961	63.2	341
1962	65.9	351

Source: U.S. Department of Commerce, Bureau of Public Roads.

Net additions to automobile stocks

With new car registrations of 6 million or less in each of the past 10 years, except 1955, 1960, and the 1962–63 period, and discards well above the earlier postwar years, net additions have shown a downward drift since the early fifties. As can be seen in table 2, net additions have exceeded 2 million cars only once between 1956 and 1961. Only partial data are now available for 1962 and 1963; if scrappages in each of these years are not in excess of 5 million cars, both years may have net additions to stocks of about 2 million cars. In the 1947–55 period, net additions to stocks failed to top 2 million units only during the Korean years of 1951 and 1952.

The effect of new car registrations and scrappages on changes in the auto stock during the postwar period is summarized below (using information from R. L. Polk & Co.)

	New registration	Scrappage	Increase in registrations
	[Millions of automobiles]		
5-year averages			
1947–51	4.6	2.3	2.3
1952–56	5.7	3.6	2.1
1957–61	5.6	4.0	1.5

Multicar ownership has increased sharply

A significant development affecting both the new and used car market in recent years has been the increasing proportion of families with more than one car. The Survey Research Center of the University of Michigan has found that the proportion of multicar spending units has more than tripled from 1952 to 1962, from somewhat over 4 percent of all spending units to 14 percent. Given the increase of more than 10 percent in the total number of spending units over the 10-year period, spending units owning more than one car rose from 2 million to 8 million.

As can be seen in the table below, there was an increase of about 6 million spending units between 1952 and 1962, while ownership of cars rose 18 million. Holdings of autos by multicar households accounted for all but about 4 million of this rise. The number of spending units with just one car has remained in the 34 to 35 million range since 1957, as the number of families owning a car for the first time apparently has just about offset the number that moved from one-car to multicar status.

While the estimates of automobiles owned by consumer spending units shown in the following table do not include government-owned cars and those used exclusively for business purposes, many automobiles reported by consumers are used to some degree for business purposes—for example, cars owned by professional men, salesmen, etc.

	1952	1957	1962	Net change 1952–62
	[Millions]			
Number of spending units	43	50	59	6
Number of automobiles owned total	34	47	52	18
By units with 1 automobile	30	36	34	4
By units with 2 or more automobiles	4	12	18	14

Composition of the Auto Stock

This section deals with changes in the auto stock with respect to its composition by age and price lines. By way of introduction it is useful to examine the postwar discard and survival rates of individual year models.

Discard and survival of postwar cars

The Polk data permit an analysis of automobile survival rates in that the June 30 registrations of automobiles of each model year are recorded for each successive year. For example, the registrations of autos of model-year

Table 2.—Postwar Changes in Automobile Stock

Year	New car registrations	Cars scrapped	Increase in stock
	(Millions of automobiles)		
1947	3.2	0.9	2.3
1948	3.6	1.2	2.3
1949	4.8	2.3	2.5
1950	6.3	3.7	2.6
1951	5.1	3.1	1.9
1952	4.2	2.5	1.7
1953	5.7	3.5	2.2
1954	5.6	3.2	2.3
1955	7.2	4.3	2.9
1956	5.9	4.3	1.6
1957	5.9	4.2	1.8
1958	4.7	3.0	1.7
1959	5.9	4.3	1.7
1960	5.5	4.3	2.3
1961	5.8	4.4	1.4
1962	6.9		

Source: R. L. Polk & Co.

1949 can be followed from 1950 to 1951 to 1952, and so on. It is assumed that registrations in each succeeding year are the surviving cars of the starting registration, and that the differences in survivals represent discards or scrappage. While there are several imperfections in this approach—such as changes in unregistered used cars held by dealers and consumers between one June 30 and the next—they are generally small, partly offsetting, and probably do not affect appreciably the year-to-year comparisons.

Scrappage is negligible in the early years: study of postwar model automobiles shows that scrappage (including cars demolished by accident) in any one of the first 5 years is rarely more than 2 percent of the total original registration. Cumulative scrappage totals only 10 percent by the end of the seventh year of operation—i.e., about 90 percent of a given model year survive for 7 years. (See chart on page 20.) In the eighth year, scrappage becomes substantial with the rate usually close to 10 percent; the highest eighth-year rate was in 1957 when more than 11 percent of 1949 model cars were discarded. Scrappage as a percentage of the original model year total remains 10 percent or higher through the 12th year, and then falls appreciably.

After somewhat over 10 years about half the original registrations are still in operation, and after 13 years about one-fourth still remain in use. (See table 3.)

Most of the discards in recent years are accounted for by the scrappage of 8- to 11-year-old cars; as can be seen in table 4, about 55 percent of the scrappage in fiscal 1962 was in this age group. The 1950, 1951, and 1953 models each accounted for about 15 percent of total 1962 discards, the share of 1955 models was almost 7½ percent.

The age distribution of the auto stock

Given the pattern of sales and survivals, there has been a considerable shift in the age distribution of cars over the postwar period. In 1947, the distribution was distorted by the wartime curtailment of auto output. In that year only slightly more than two-fifths of the stock consisted of cars under 8 years of age, and fully one-fifth were at least 12 years old. Ten years later, the proportion in the former group has almost doubled, and the 12-years-and-older category—which at that time included the years that had borne the full brunt of the wartime auto production embargo—had dwindled to less than 5 percent of the total stock.

Most of the abnormalities of the war and early postwar years had been eliminated from the age distribution of the stock by 1962. In that year almost three-fourths of the passenger cars in operation were under 8 years old, 18 percent were between 8 and 12 years old, and somewhat less than 8 percent were 12 years or more.

As can be seen in the following table (based on the Polk data) the relative age distribution of cars in 4-year age intervals in 1962 was similar to that of 1941. The only appreciable difference is the lower proportion of 8- to 12-year-old cars in 1941, reflecting the impact of the early depression years on the 1941 distribution. More pronounced differences appear in the yearly age distribution shown in table 6.

	June 30				
	1941	1947	1952	1957	1962
	(Percent distribution)				
All registrations	100	100	100	100	100
Under 4 years	38	18	40	40	36
4 to under 8 years	35	39	29	39	39
8 to under 12 years	15	37	11	16	20
12 years and over	9	20	23	4	5
Median age (years)	4½	8½	4	4½	5½
Mean age (years)	5	8	6	5	5½

As a result of these changes in the age distribution, the median age of passenger cars declined from about 8½ years in 1947 to about 4 years in 1952, and then moved up to 5½ years in 1962. The movements of the arithmetic mean have been somewhat different (see table above): the amplitude of the changes is narrower, and the postwar low shifts from 1952 to 1957. The overall movement of the two averages since 1957, however, is similar.

Late model stock, income, and population

As new car sales remained sluggish for 6 years after the great spurt of 1955 and scrappage was little changed, the stock of late model cars—less than 4 years old, for example—rose only 6 percent between mid-1956 and mid-1962; in the 1952–56 period, the rise was almost 15 percent. In contrast, the number of older cars increased con-

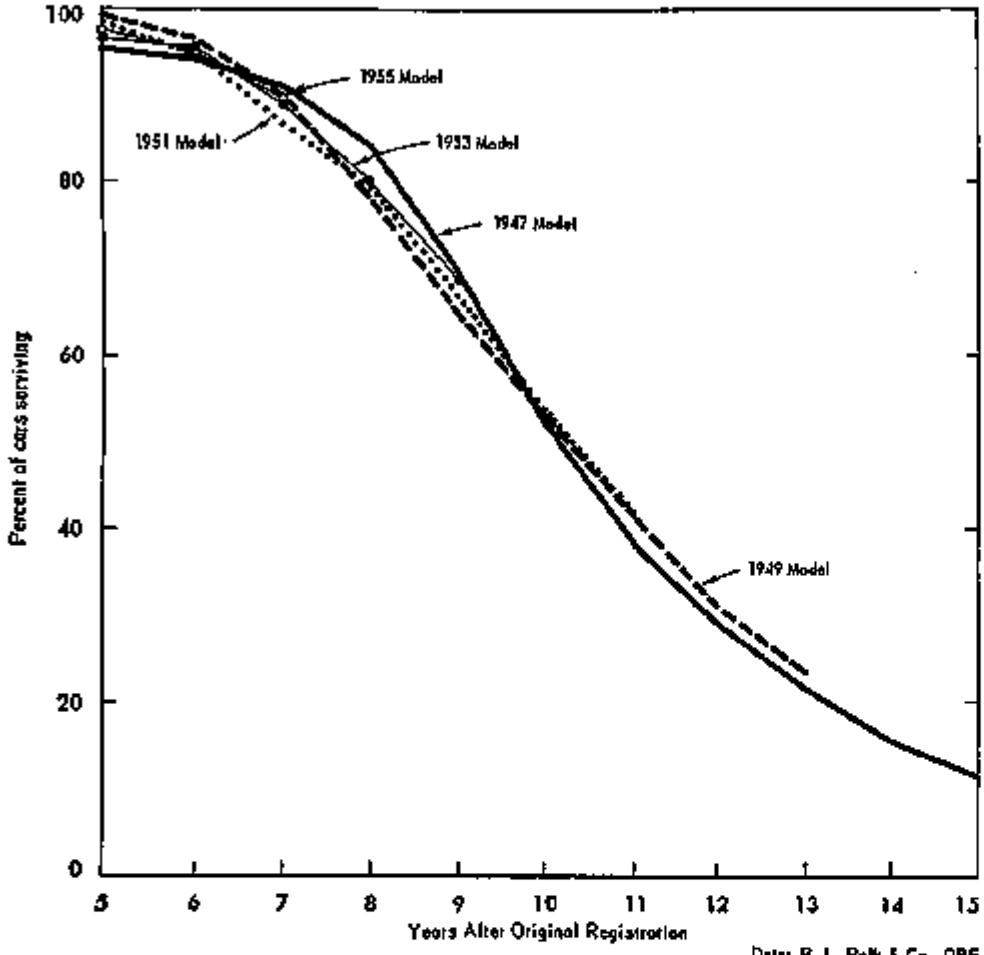
Table 3.—Passenger Car Survival Rates, by Model Years

Age of car (years)	Model years											
	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
	(Percent surviving of original registration)											
5	96	95	93	90	100	93	90	91	96	98	98	99
6	85	94	87	97	97	92	92	98	98	95	95	
7	93	91	85	90	91	87	88	90	90	90		
8	80	84	83	78	88	70	79	80	82			
9	79	76	68	84	71	67	60	60				
10	62	53	53	53	58	54	54					
11	44	38	43	41	46	42						
12	30	29	32	31	36							
13	22	21	24	23								
14	16	16	18									
15	12	11										

Source: U.S. Department of Commerce, Office of Business Economics, based on R. L. Polk & Co. data on registrations. 1956 model cars on the average are considered to be 1 year old on June 30, etc.

PASSENGER CAR SURVIVAL RATES

Experience Thus Far Suggests Little Change in the Service Lives of Postwar Models Through 1955



U.S. Department of Commerce, Office of Business Economics

Data: R. L. Polk & Co., OBE 63-9-7

siderably—about 35 percent in both periods—and reflected the more rapid sales rises in the earlier postwar years. All but 4 million of the 21 million increase in the total stock of passenger cars between 1952 and 1962 occurred among cars 4 years old or older.

The rise in late model registration over the past decade becomes negligible on a per capita basis. The population growth in this period has averaged about 1.7 percent per year as compared to 1.9 percent in late model car registrations.

When trends in the late model auto stock and in disposable personal income in constant dollars are compared, there is a distinct downward tendency in the ratio of stock to income since the early 1950's. Thus while the stock of late model automobiles has maintained an almost equal pace with the population growth in the last decade, it has fallen off in relation to income. This, of course, is a consequence of lower new car registrations relative to income as can be seen in the chart.

This result is based on the number of cars in stock rather than the value of the stock. Examination of expenditures for new cars in real terms suggests that a constant dollar stock series for late model automobiles would show a larger rise than a comparable unit stock series in the early fifties. Since the mid-50's, however, both the unit and the constant dollar series have shown little growth. The latter has been affected by the growing proportion of imports and lower priced compacts which about offset trading up within brands and the increasing use of extras (for example, automatic transmissions, power steering, and air conditioning).

Low-priced cars a rising proportion of stock

When the stock of autos is examined in terms of original (new car) price lines, it is found that the "low priced" cars [1] have been increasing their proportion of the total stock since 1952 at the expense of higher priced makes. This was a reversal of the relative movements in the earlier postwar years. In 1962, the low-priced group accounted for almost 66 percent of the stock, as compared to 58 percent in 1952, 61 percent in 1947, and 64 percent in 1941.

Survival rates by price lines, which can now be computed for the early postwar models, show that low-priced cars are kept in operation for a longer number of years than are higher priced cars. This may be a function of lower costs of operation, replacement parts, and repair of the lower priced cars; all of these costs are basic considerations for buyers of used cars.

The Characteristics of Automobile Ownership in 1960 [2]

Close to four-fifths of all households in the United States had at least one automobile in 1960. Cross-sectional data show that household income was the major determining factor in automobile ownership. Car ownership in 1960 increased steadily with income, ranging from over 46 percent among households with less than $2,000 of income to 96 percent among households with income of $10,000 and over. More than 70 percent of the $2,000-to-$3,999 group, and 85 percent in the income group of $4,000–$5,999 had at least one car.

1. The data used in this section are based on brands of autos rather than actual prices. All Chevrolets, Fords, Plymouths, compacts, and imports were classified as "low priced."

2. This section is based on tabulations prepared by the Office of Business Economics from a sample drawn by the Bureau of the Census from the 1960 Census of Population. The sample consisted of 1 household from each 1,000 in the United States, or over 50,000 households. The term "ownership" is used throughout this discussion, although the data actually cover passenger cars available to, rather than owned by, households. Cars were to be counted in the 1960 Census if they were owned by a member of the household or if they were regularly used by a member of the household and ordinarily kept at home, such as a company car furnished to an employee for his daily use. The Census results, therefore, show higher saturation rates than other surveys which are confined to actual ownership of automobiles.

Almost one-fifth of the households in 1960 had two automobiles, and 2½ percent had three or more. Multiple-ownership data indicated an even closer relationship with income than did ownership of one or more cars. By income groups multiple ownership ranged from 6 percent in the under $2,000 size class to 59 percent in the over $25,000 group; households owning three or more cars range up to 12 percent for the highest income group. While there were only small differences in the proportion of families with at least one car among the income size groups over $6,000, multiple car ownership increased considerably as income rose above this amount (see table 7).

Auto ownership and age of household head

Four-fifths or more of all households with heads less than 55 years of age had automobiles in 1960. When household heads were grouped by 10-year age intervals, the rate of ownership increased from 80 percent for households with the youngest heads (under 25 years of age) to 88 percent for the 35 to 44 years age class, and then declined, reaching 57 percent among households headed by persons 65 years or over. Multiple car ownership showed a similar pattern except that the highest proportions of three or more car households were in the 45- to 54-years group.

When households were cross-tabulated by age of head and income (see table 5), it was found that the relative incidence of cars in each income group declined with increasing age of head starting with the 45- to 54-year class. The youngest age group, under 25 years, showed the highest or close to the highest rate in most income sizes. Their relatively lower overall ownership rate was the result of their concentration in the lower income groups. It is interesting to note also that as income rose, differences in the extent of ownership among age groups from the 25 to 34 to the 55 to 64 class became smaller, and was insignificant above $10,000 of income.

Automobiles and educational attainment

Although a direct relationship was found between ownership and educational achievement of the household head, this appeared to be mostly a reflection of the high correlation between education and income. Among households with similar income, automobile ownership rates did not rise uniformly with increasing education. For example, households with college-education heads did not have higher rates of automobile ownership (or of multiple ownership) than households headed by persons with 12 years of education when income is held constant.

Occupational differences

Not unexpectedly, households headed by managers, proprietors, and company officials had the highest proportion of auto ownership (93 percent). However nearly the same rate (91 percent) was prevalent among craftsmen and foremen. The rate for salesworkers was 86 percent; for professionals and technicians, 83 percent. Farmers and farmworkers also had a rate higher than that for all households.

Managers ranked first in the relative extent of ownership of more than one car. Salesworkers were in second place, probably reflecting their occupational requirements as well as their higher likelihood of having company-owned cars.

If income is held constant, the automobile ownership rate of farmers ranks first. The lead was especially large in the under $6,000 income classes where the rates of other occupational groups did not exceed 90 percent, while those for farmers were 92 percent in the $2,000–$3,999 income-size class, and 95 percent in the $4,000–$5,999 group. Farmers had the highest rate of multiple ownership among all groups with household income less than $10,000. These findings must be qualified to the extent that income in kind is not fully represented in farmers' income and response errors of reporting small trucks as autos would probably have a higher incidence for farmers. Nevertheless, the lower overall rank of farmers among

Table 4.—Disappearances From Registrations by Model Year, 1952–62 [1]

[Millions of cars for years ending June 30]

	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
Total	3.2	2.4	3.3	3.1	4.1	3.9	4.1	2.8	4.1	4.2	4.2
Model Year											
1957											.1
1956									.1	.1	.1
1955									.1	.2	.2
1954							.1		.2	.2	.2
1953							.1	.1	.3	.3	.3
1952						.1	.3	.1	.4	.5	.5
1951					.1	.1	.2	.4	.4	.7	.7
1950					.1	.2	.4	.6	.5	.5	.6
1949				.1	.1	.3	.5	.7	.6	.6	.6
1948				.1	.1	.3	.4	.6	.3	.3	.2
1947			.1	.2	.4	.5	.5	.3	.2	.2	.1
1946			.1	.2	.3	.4	.3	.2	.1	.1	
Prewar	3.1	2.3	2.9	2.3	2.3	1.8	.7	.3	.3	.2	.2

[1] Detail may not add to totals due to rounding.

Source: U.S. Department of Commerce, Office of Business Economics, based on R. L. Polk & Co. data.

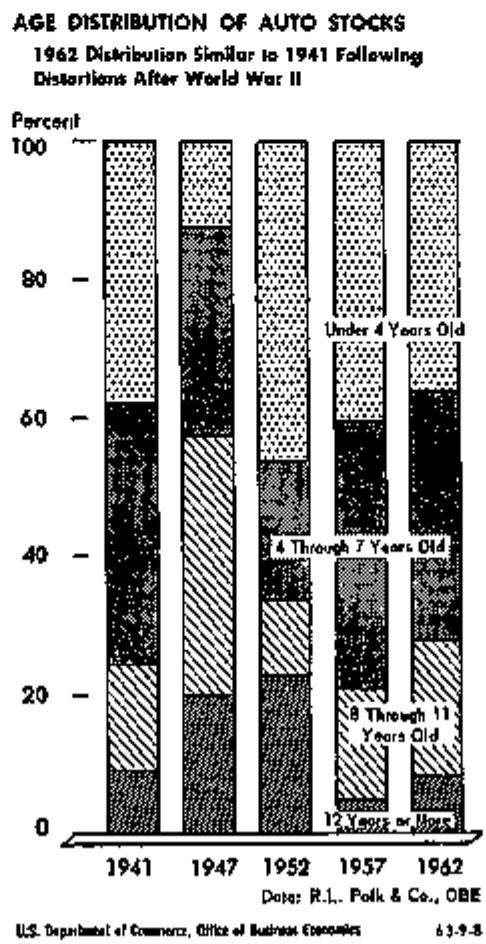


Table 5.—Automobile Ownership by Household Income, Size, and Other Selected Characteristics, 1960

	All households						Income under $2,000					Income $2,000–$3,999					Income $4,000–$5,999				
	Number in thousands	Percentage of households with—					Number in thousands	Percentage of households with—				Number in thousands	Percentage of households with—				Number in thousands	Percentage of households with—			
		No auto	1 or more autos	1 auto	2 or more autos	3 or more autos		No auto	1 or more autos	1 auto	2 or more autos		No auto	1 or more autos	1 auto	2 or more autos		No auto	1 or more autos	1 auto	2 or more autos
Households by income	52,887	22	78	57	21	2	9,883	54	46	40	6	9,780		71	61	10	11,547	15	85	68	17
Age of head of household																					
Under 25 years	2,711	20	80	66	14	2	543	41	59	48	12	894	31	70	60	10	734	12	88	76	12
25 to 34	9,500	12	87	67	20	1	962	48	52	43	9	1,796	32	78	68	11	2,893	10	90	74	15
35 to 44	11,021	12	88	58	29	3	1,018	38	62	51	10	1,401	28	72	60	12	2,710	11	89	69	21
45 to 54	10,810	13	87	54	28	4	1,330	43	57	45	8	1,625	32	68	55	13	2,249	13	87	63	19
55 to 64	8,841	25	74	55	18	3	1,906	53	47	40	8	1,612	34	66	50	8	1,763	22	78	64	14
65 years and over	9,296	42	57	46	10	2	4,125	63	37	34	3	2,109	33	67	60	8	1,133	23	77	64	14
Highest educational attainment of head of household																					
7 years or less	8,473	42	58	47	11	2	3,474	62	37	35	2	2,650	38	62	53	9	1,424	24	76	59	17
8 through 11 years	23,026	23	77	58	19	2	4,007	52	47	41	6	4,855	29	71	61	10	5,412	14	86	69	18
12 years	11,031	13	87	61	25	3	1,161	41	59	48	11	1,938	20	80	67	13	2,936	12	88	68	20
13 through 15 years	4,815	13	87	57	30	3	479	36	64	53	11	638	20	71	59	12	976	10	84	69	15
16 years and over	4,900	8	92	50	33	9	272	32	68	43	25	384	20	80	64	16	794	12	88	73	15
Occupation of head of household																					
Professional and technical	6,092	17	83	58	25	2	880	55	45	35	10	765	32	68	60	7	1,037	16	84	60	14
Managers, officials, and proprietors	5,119	8	92	54	37	6	353	28	72	50	15	552	20	80	62	13	787	10	90	67	23
Sales workers	3,014	14	86	54	32	3	347	40	54	39	15	420	24	76	65	11	620	12	88	64	24
Clerical and kindred workers	4,092	22	78	63	15	2	390	48	52	46	6	798	39	61	57	4	1,240	21	79	70	8
Craftsmen, foremen, and kindred workers	6,612	9	91	60	28	3	856	29	71	62	9	1,909	16	84	68	15	2,447	8	92	75	17
Operatives and kindred workers	9,062	20	80	61	19	2	1,031	46	53	45	8	1,901	34	66	58	8	2,046	15	85	70	16
Farmers and farm workers	3,323	16	84	62	22	3	1,350	51	49	40	9	930	8	92	74	19	503	6	95	63	45
Service, household workers, and laborers	8,700	37	63	50	13	2	2,332	67	33	30	3	2,248	40	60	52	8	2,000	33	77	61	16
Occupation not reported	3,890	66	44	38	6	1	2,050	68	32	30	2	554	37	63	50	0	288	38	72	62	17
Size of household																					
1 person	7,069	58	42	30	3	1	3,784	71	29	27	2	1,578	52	48	44	4	1,022	32	61	56	5
2 persons	14,880	22	78	63	16	1	3,249	44	56	49	6	3,286	28	72	65	7	3,181	17	83	69	14
3 persons	9,633	15	85	62	27	3	1,160	41	59	47	12	1,734	24	76	61	15	2,332	13	87	67	20
4 persons	9,132	10	90	60	30	4	672	38	61	45	16	1,300	18	82	60	16	2,238	10	90	71	19
5 or more persons	11,857	12	88	69	29	4	1,112	42	58	39	9	1,862	25	76	63	13	2,794	9	91	70	21
Number of earners in families																					
Families:																					
No earners	3,534	40	60	53	6	1	2,307	40	51	45	6	871	33	67	54	3	188	14	86	59	0
1 earner	21,013	14	86	64	22	1	3,525	35	65	55	10	4,577	24	76	60	11	6,083	12	88	72	16
2 or more related earners	19,769	12	88	66	32	4	914	45	55	48	8	3,410	23	77	61	15	4,903	13	87	64	22
Unrelated individuals	7,972	60	44	30	4	2	4,209	60	31	29	4	1,822	60	50	45	5	1,175	37	63	56	8
Region of residence																					
North East	13,507	28	72	50	16	3	1,962	69	33	29	5	2,243	46	54	49	6	3,228	26	75	65	9
North Central	15,345	16	85	61	22	2	2,062	48	52	44	8	2,603	28	77	66	12	3,448	11	89	71	17
South	13,440	34	76	65	29	2	4,110	62	38	33	5	3,678	24	76	66	10	3,005	14	86	69	20
West	8,592	10	91	54	31	4	1,343	51	49	41	8	1,396	25	75	66	15	1,600	10	90	66	24
Size of place																					
Rural farm	3,637	11	89	64	26	3	1,213	22	78	66	12	931	9	91	77	13	540	6	95	57	45
Rural non-farm	11,000	17	83	58	25	3	2,711	49	51	45	6	2,840	14	80	70	10	3,560	6	94	71	23
Urban less than 250,000	25,521	18	82	60	23	2	3,927	67	33	27	7	4,171	26	72	64	8	5,507	11	89	73	16
Urban 250,000 and more	12,729	37	63	46	14	2	2,132	72	28	24	4	2,338	59	41	40	0	2,841	34	66	57	9
Homeownership																					
Own	32,743	15	87	60	28	3	5,102	44	56	49	7	4,912	18	82	69	13	6,782	9	91	70	21
Rent	20,144	36	65	54	11	2	4,881	64	36	31	5	4,803	45	60	52	8	4,765	28	77	66	11

Source: U.S. Department of Commerce, Office of Business Economics, based on special tabulations of a one in a thousand sample of the 1960 Census of Population and Housing.

all occupations was due to the larger proportion of farmers in the under $2,000 income group.

Ownership of automobiles by households headed by a professional or technical person was above average, largely reflecting their generally higher incomes. Within income groups at the lower end of the size scale, professional and technical persons had relatively fewer cars per households than the overall average. In the higher income sizes, however, their auto ownership rates were above those of all households combined, possibly because of the high business use of cars among professionals. Their rate of multiple ownership remained below average in all income groups.

Larger households typically have more cars

The rate of car ownership increased with the size of household up to four persons. The five-or-more-member households ranked slightly lower than four-member households. Multiple car ownership showed the same ranking, although the proportion for three or more cars was highest among the largest households. Households with only one person had an ownership rate of 42 percent as compared to the national average of over 78 percent and their rates were consistently lower than average in each income-size class.

The lower ownership rate for the largest households was especially noticeable among households with incomes of less than $4,000; competing expenditures for other goods and services are likely to exert their strongest effect on

Table 5.—Automobile Ownership by Household Income, Size, and Other Selected Characteristics, 1960—Continued

	Income $5,000–$7,999					Income $8,000–$9,999					Income $10,000–$14,999					Income $15,000 and over				
	Number in thousands	Percentage of households with—				Number in thousands	Percentage of households with—				Number in thousands	Percentage of households with—				Number in thousands	Percentage of households with—			
		No auto	1 or more autos	1 auto	2 or more autos		No auto	1 or more autos	1 auto	2 or more autos		No auto	1 or more autos	1 auto	2 or more autos		No auto	1 or more autos	1 auto	2 or more autos
Households by income	8,241	8	92	60	25	6,330	6	94	68	30	4,851	4	96	50	46	2,146	4	96	32	64
Age of head of household																				
Under 25 years	367	6	94	70	23	110	6	94	64	46	43	10	90	57	33	12	0	100	67	33
25 to 34	2,265	4	96	74	22	1,062	4	96	60	36	916	2	98	53	45	197	2	98	46	52
35 to 44	2,721	5	94	64	29	1,965	3	97	60	37	1,512	3	97	48	49	575	2	98	22	76
45 to 54	2,007	9	91	62	29	1,343	7	93	53	40	1,403	4	96	48	49	538	3	97	20	76
55 to 64	1,220	13	87	66	28	792	11	89	58	31	853	4	95	55	41	403	6	94	40	54
65 years and over	662	20	80	58	26	366	17	83	51	32	304	16	84	50	34	223	9	91	45	45
Highest educational attainment of head of household																				
7 years or less	750	29	80	56	24	388	14	86	50	36	284	10	90	51	39	73	7	93	20	53
8 through 11 years	3,909	5	95	68	28	2,083	7	93	56	37	1,602	5	94	52	42	690	5	95	35	56
12 years	2,574	5	95	69	26	1,448	5	95	57	38	1,228	4	96	49	50	451	5	95	35	60
13 through 15 years	1,054	5	95	61	32	647	6	94	50	36	707	1	99	50	49	342	2	98	30	68
16 years and over	974	7	93	70	19	772	3	97	60	28	984	3	97	52	44	780	2	98	28	70
Occupation of head of household																				
Professional and technical	1,173	5	95	70	22	798	5	95	68	27	923	3	97	52	45	651	3	97	32	64
Managers, officials, and proprietors	900	5	95	62	33	753	6	94	56	38	947	3	97	46	51	662	3	97	32	65
Sales workers	501	6	94	61	33	378	4	96	61	35	412	2	98	47	51	220	2	98	27	71
Clerical and kindred workers	834	11	89	73	16	449	10	90	61	29	340	4	96	56	39	65	10	90	33	57
Craftsmen, foremen, and kindred workers	2,334	4	96	60	37	1,810	4	96	58	38	1,048	3	97	50	47	210	2	98	29	69
Operatives and kindred workers	1,882	9	91	68	23	908	6	94	52	42	574	7	93	45	48	88	2	98	44	49
Farmers and farm workers	236	3	97	52	45	119	0	100	40	60	110	1	99	70	29	44	0	100	34	66
Service, household workers, and laborers	1,109	16	84	63	21	554	14	86	60	26	403	11	89	62	27	114	20	80	30	50
Occupation not reported	151	28	72	46	25	87	10	81	61	20	90	24	76	53	24	40	18	82	41	41
Size of household																				
1 person	409	31	69	65	4	128	13	87	84	3	106	23	77	70	7	60	32	68	59	9
2 persons	2,224	11	89	68	21	1,251	6	92	63	29	1,140	6	94	57	37	524	4	96	48	47
3 persons	1,988	9	91	63	28	1,190	7	93	58	34	1,118	3	97	52	45	449	3	97	31	66
4 persons	2,058	5	95	68	26	1,240	4	96	55	42	1,006	4	96	44	52	490	0	100	31	69
5 or more persons	2,562	4	96	67	29	1,445	5	95	56	40	1,413	3	97	46	51	619	5	95	19	76
Number of earners in families																				
Families:																				
No earners	98	25	75	57	18	34	0	100	68	24	36	11	89	74	16	28	7	93	57	36
1 earner	4,146	6	94	73	22	3,778	5	94	63	32	2,444	3	97	54	43	965	2	98	33	65
2 or more related earners	4,579	0	91	62	30	2,378	0	94	55	39	2,273	4	96	46	50	1,071	5	95	29	66
Unrelated individuals	449	29	71	62	9	140	14	86	61	4	106	22	78	67	11	72	30	70	59	11
Region of residence																				
North East	2,541	16	85	69	16	1,404	11	89	66	20	1,480	9	91	55	34	668	10	90	36	54
North Central	2,922	5	95	70	25	1,960	5	95	62	33	1,442	2	98	54	44	621	2	98	33	65
South	2,129	7	93	62	31	1,130	5	95	49	46	902	3	97	46	52	458	8	292	27	72
West	1,950	6	95	63	32	1,007	2	98	48	50	977	2	98	38	60	409	3	97	31	66
Size of Place																				
Rural farm	353	1	99	47	52	170	0	100	50	50	143	0	100	62	38	78	0	100	36	64
Rural non-farm	1,717	3	97	65	32	826	1	99	45	54	468	1	99	39	59	264	0	100	26	74
Urban less than 250,000	4,888	5	95	69	25	2,978	4	96	62	34	2,706	2	98	49	49	1,245	2	98	30	68
Urban 250,000 and more	2,186	20	80	65	15	1,356	16	84	59	25	1,324	11	89	57	32	559	12	88	39	50
Homeownership																				
Own	5,304	5	95	60	29	3,974	4	96	56	40	3,808	2	98	47	51	1,903	2	98	29	70
Rent	2,877	16	84	67	17	1,340	14	86	64	22	1,055	13	87	62	26	243	20	80	51	29

Source: U.S. Department of Commerce, Office of Business Economics, based on special tabulations of a one in a thousand sample of the 1960 Census of Population and Housing.

the largest households at these income levels.

Automobile ownership among multicarner families

Multicarner families had higher rates of ownership of one, two, or three or more automobiles than did families with only one earner. When household incomes are approximately equal, the percentage of multicarner families with autos was not higher than that for one-earner families. However, the multicarner group's share of two or more cars was higher, probably due to a greater need for more than one automobile.

Differences by region and size of place of residence

When both single automobile and multicar ownership were examined by major geographic region in 1960, it was found that the West and North Central had higher-than-average relative proportions, while the South and Northeast were below average. If income levels are held constant, all regions had approximately similar rates, except the Northeast, which was appreciably lower.

Multicar ownership was also the lowest in the Northeast, while the other regions were ranked in descending order as follows: West, South, North Central. The low overall rank of the South among all households appeared to be primarily due to the generally lower incomes in that area. The greater concentration of households in urban areas and large cities with their mass transit systems in the Northeast and

Table 6.—Percentage Distribution of Age of Auto Stock, for Selected Years

Age of passenger cars	Age distribution of auto stock [1]				
	1941	1947	1953	1957	1962
Total	100	100	100	100	100
Current model	12	6	5	7	9
1 year	11	8	14	12	9
2 years	0	(*)	10	13	10
3 years	6	(*)	12	8	10
4 years	12	(*)	7	11	7
5 years	12	4	7	7	10
6 years	8	15	6	10	8
7 years	6	11	(*)	11	10
8 years	4	0	(*)	8	6
9 years	2	0	(*)	4	6
10 years	4	12	2	3	5
11 years	4	10	0	2	4
12 years	5	6	0	(*)	4
13 years	2	4	4	(*)	2
14 years	3	2	2	(*)	1
15 or more years		0	10	6	2

*Negligible.
1. As of June 30th of each year.

Source: U.S. Department of Commerce, Office of Business Economics, based on R. L. Polk & Co. data.

North Central regions may explain their lower rankings at approximately equal income levels.

Automobile ownership was well below average in cities with over 250,000 population, where 63 percent of the households had cars in 1960. Ownership was relatively highest among households in rural-farm areas, and higher than average in rural-nonfarm areas and in smaller cities. Multicar ownership had a similar pattern, except that the differences between the last three types of areas were small. Within income groups, multicar households in rural-nonfarm areas were higher than in rural-farm areas among households with more than $8,000 of income, while the reverse was true for smaller income-size classes.

Automobile ownership among homeowners and renters

Both single and multicar ownership in 1960 were relatively higher for homeowners than for those who rent their dwelling units. The higher rates for homeowners were observed in every income group. This may largely reflect place of residence: renters are more concentrated in the larger cities where the need for automobiles is less, because of better availability of public transportation.

Summary

Four-fifths of the households in the United States had one or more automobiles in 1960. Size of income was the major determining factor in both single and multiple car ownership. Within similar income classes, there were several factors of importance with respect to ownership; residents in farm and rural areas were more likely to own automobiles than urban residents, families headed by young adults were more likely to have an automobile, and homeowners more frequently owned cars. On the other hand, single person households had lower auto ownership rates. Education did not seem to be important, and in fact may have been a negative factor when income was held constant.

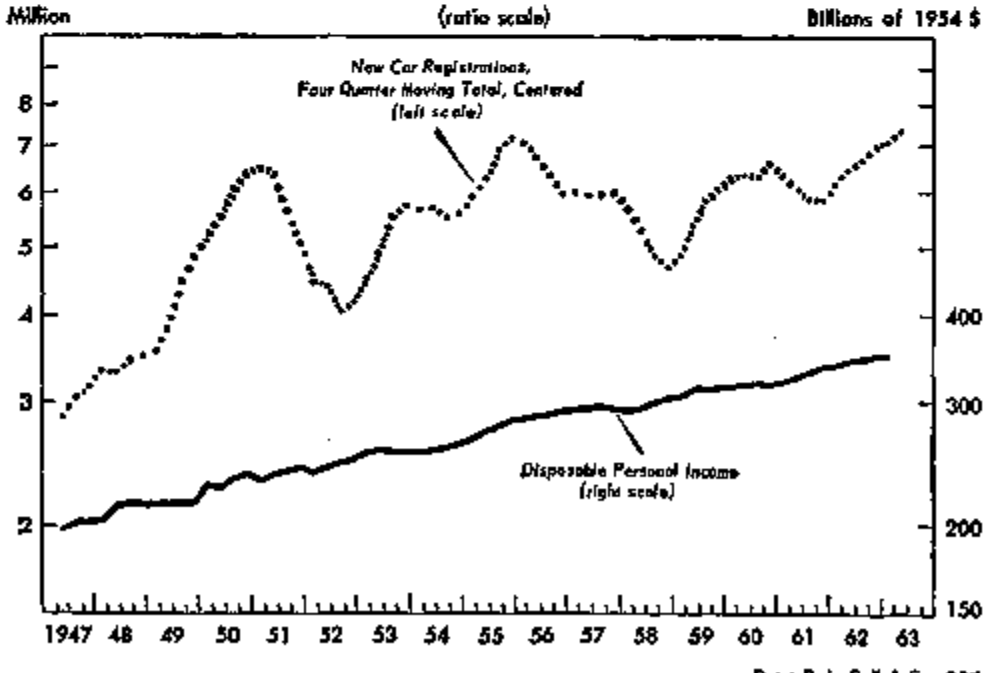
Table 7.—Automobile Ownership, by Income Size of Household, 1960

Households by income-size groups	Number of households (thousands)	Percentage distribution of households with—				
		No auto	1 or more autos	1 auto	2 autos	3 or more autos
All households	52,688	21	78	57	15	2
Less than $2,000	9,583	54	46	38	6	1
2,000 to 3,999	9,780	29	71	61	9	1
4,000 to 5,999	11,547	15	85	68	15	2
6,000 to 7,999	10,241	8	92	68	23	2
8,000 to 9,999	5,350	6	94	68	22	3
10,000 to 14,999	4,361	4	96	50	43	6
15,000 to 24,999	1,547	5	95	54	38	11
25,000 and over	669	2	98	28	57	12

Source: U.S. Department of Commerce, Office of Business Economics, based on special tabulation of a random sample of 1,000 households in the 1960 Census of population and Housing.

NEW PASSENGER CAR REGISTRATIONS AND REAL DISPOSABLE PERSONAL INCOME

Broadly Viewed, Auto Purchasing Is Now Well Into Its Third Major Postwar Expansion Pronounced Swings Contrast With Small Fluctuations in Income



U.S. Department of Commerce, Office of Business Economics

Data: R. L. Polk & Co., OBE
63-9-6

Balance of Payments

(Continued from p. 24)

Except for an increase in petroleum and steel imports, seasonally adjusted imports of all other industrial supplies and materials in the first half of 1963 were virtually unchanged from the last half of 1962 and still noticeably lower than in the first half of that year. In view of the substantial expansion in domestic business activity from early 1962 to date, imports of industrial materials seemed to be less than might have been expected.

A sharp drop in imports of foodstuffs from the record rate in the latter part of 1962, when sugar arrivals were exceptionally high, was largely offset by a moderate rise in imports of finished manufactures, mostly machinery and consumer goods.

The principal products expanding in the machinery group were agricultural and metalworking equipment. The rise in consumer goods was due chiefly to increased imports of passenger cars and parts, and motorcycles (from Japan).